

### REMARKS

Claims 6-11 and 14 have been cancelled. New claims 21-26 have been added. Claim 1 has been amended to recite the identification and utilization of a line passing through the hard palate in identifying a Talairach AC-PC reference line. None of the amendments to the claims is believed or intended to introduce new matter.

The applicant would like to thank the Examiner and her supervisor for the courtesies extended during the interview of May 15, 2007. During that interview, the applicant discussed how the use of the hard palate as recited in original claim 11, and the specific sequence of steps recited in proposed new claim 21 differ from the art cited in the previous office actions. Further, the applicant discussed how the use of two dimensional images enabled by the applicant's disclosure was an additional feature not taught or suggested in the art of record. Based on that discussion, the applicant believes that the current amendments are sufficient to overcome the pending art based rejections. Additionally, the Examiner asked the applicant to verify his status as the sole inventor of the subject matter of the claims, and to show that the claims should not be rejected under 35 U.S.C. 102(f) as the invention of another. An explanation of how the current amendments are sufficient to overcome the pending rejections is set forth herein, and an affidavit establishing Kenneth L. Weiss as the sole inventor of the pending claims is attached. Consequently, the rejections of the pending claims should be withdrawn, and those claims should be allowed.

### Inventorship

According to MPEP § 2137, in response to an inquiry regarding inventorship based on authorship identified in a reference such as an article, an applicant should "provide a satisfactory showing by way of affidavit under 37 CFR 1.132 that the inventorship of the application is correct in that the reference discloses subject matter invented by the applicant rather than derived from the author." Accordingly, the applicant has provided an affidavit under 37 CFR 1.132 that the identification of Kenneth L. Weiss as the sole inventor of the pending application is correct. Consequently, the pending claims meet the requirement of patentability under 35 U.S.C. 102(f).

### Relationship of the Pending Claims to the Prior Art

Regarding independent claim 1, that claim has been amended to recite the identification of a line passing through a hard palate, and utilizing the identified line to approximate the Talairach AC-PC reference as about 12 degrees more extended than the hard palate. The amendment to claim 1 does not introduce new matter, and support for that amendment can be found in at least claim 11 as originally filed. As mentioned in response to the previous office action, the relationship of the AC-PC reference line as being 12 degrees more extended than the hard palate was not even reported until applicant's investigation and related publication of "CT Brain Prescriptions in Talairach Space: A New Clinical Standard" (AJNR Am J Neuroradiology 25:233-237, February 2004). Consequently, as discussed in the interview, the particular use of that relationship recited in claim 1 cannot be taught or suggested in the art of record. Accordingly, the rejection of claim 1, and the rejections of claims 2-5 and 12-13 which depend therefrom should be withdrawn, and those claims should be allowed.

Regarding independent claims 15 and 18, those claims have been amended to recite the limitation that the diagnostic image is a thin section diagnostic image. During the interview, the applicant explained that the techniques described in the present application can be distinguished from the art because (among other reasons) the techniques of the present application can be used to define a coordinate system by reference to a Talairach AC-PC reference line without requiring a full three dimensional image of a patient's head. For example, the present techniques can be performed using a two dimensional image of a patient's head, rather than a full brain volume. By contrast, the deCharms reference (US 6,996,261) discusses manual identification of points in a three dimensional image of a subject's brain (see deCharms, col. 86, ll. 33-38), then computing a 3D to 3D transformation to transform the coordinates in a standard brain into the subject's brain (col. 87, ll. 2-8). While deCharms does mention the existence of some automated processing (e.g., col. 45, ll. 54-56 "[t]his process can take place either manually, or in a fully or partially automated fashion") that automated processing does not define a coordinate system for the patient's head. Instead, the automated process described in deCharms is used to identify which voxels in a brain image/volume respond to a given stimulus, rather than defining a coordinate system for a diagnostic image. Thus, because the automated process taught in deCharms is not used to define a coordinate system for a diagnostic image, and because the technique taught in deCharms for transforming a subject's brain into a standard coordinate

system requires manual selection of points and does not use a thin section diagnostic image, deCharms does not teach or suggest the invention recited in claims 15 and 18, or in claims 16-17, or 19-25 which depend therefrom, and requests that those claims be allowed in their present form.

Regarding independent claim 26, that claim recites a particular sequence of steps which is disclosed in paragraphs 44-46 of the pending application, and which is not taught or suggested in the primary reference cited in the previous office actions, U.S. 6,996,261. As discussed in the interview, claim 26 has been drafted to make explicitly clear that multiple two dimensional images (i.e., the coronal scout image, the axial oblique image, and the midline sagittal T2-weighted image) are obtained, and used together (e.g., clause (i) of claim 26, which recites using roll and yaw angle previously determined to obtain a midline sagittal T2-weighted image) in order to identify the AC-PC reference line. This emphasis provides further a further point of distinction from deCharms because, while that reference does recite producing two dimensional images of the brain (e.g., col. 39, ll. 19-43), it does not teach or suggest utilizing separate two dimensional images to identify roll and yaw angles, and then using those angles to obtain a third two dimensional image used for identifying the AC-PC. Consequently, claim 26 also recites limitations which are not taught or suggested in the prior art of record, and should be allowed.

**CONCLUSION**

In light of the amendments and remarks made herein, it is respectfully submitted that the claims currently pending in the present application are in form for allowance. Accordingly, reconsideration of those claims, as amended herein, is earnestly solicited. Applicant encourages the Examiner to contact his representative, William Morriss at (513) 651-6915 or [dwmorriss@fbtlaw.com](mailto:dwmorriss@fbtlaw.com).

The Commissioner for Patents is hereby authorized to charge any deficiency or credit any overpayment of fees to Frost Brown Todd LLC Deposit Account No. 06-2226.

Respectfully submitted,  
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